

REMARKS

In the final Office Action, the Examiner rejected claims 1, 2, 4, 10, 13, and 17 under 35 U.S.C. § 102(e) as anticipated by Aso et al. (U.S. Patent Application Publication No. 2001/0007509); rejected claims 7, 8, 14, and 25 under 35 U.S.C. § 103(a) as unpatentable over Aso et al. in view of Bartholomew (U.S. Patent No. 4,885,460); rejected claims 9 and 15 under 35 U.S.C. § 103(a) as unpatentable over Aso et al. in view of Suzuki (U.S. Patent No. 6,324,318); rejected claim 29 under 35 U.S.C. § 103(a) as unpatentable over Aso et al. in view of Alexander et al. (U.S. Patent No. 5,715,076); and rejected claims 24 and 30 under 35 U.S.C. § 103(a) as unpatentable over Aso et al. The Examiner objected to claims 5, 6, 11, and 18-20 as dependent upon a rejected base claim that would be allowable if rewritten in independent form to include all of the features of the base claim and any intervening claims. The Examiner allowed claims 22, 23, 26, and 28.

By this Amendment, Applicant proposes canceling claim 24 without prejudice or disclaimer and amending claims 1, 2, 4, 7, 8, 10, 11, 13, 17, 20, 23, 25, 29, and 30 to improve form. Applicant appreciates the Examiner's identification of allowable subject matter, but respectfully traverses the Examiner's rejections under 35 U.S.C. §§ 102 and 103 with regard to the claims as now amended. Claims 1, 2, 4-11, 13-15, 17-20, 22, 23, 25, 26, and 28-30 will be pending after entry of this Amendment.

At the outset, Applicant respectfully submits that the finality of the Office Action, dated February 25, 2005, is improper. In the previous Office Action, dated September 10, 2004, the Examiner rejected independent claim 29 under 35 U.S.C. § 102(e) as anticipated by Dasylyva et al. Applicant subsequently filed an Amendment on December 9, 2004 with a very minor change

to claim 29. In the final Office Action, dated February 25, 2005, the Examiner newly rejected independent claim 29 under 35 U.S.C. § 103(a) as unpatentable over Aso et al. in view of Alexander et al. The Examiner made the rejection final, alleging that Applicant's amendment necessitated the new grounds of rejection (final Office Action, page 6).

M.P.E.P. § 706.07(a) states that:

second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p).

The minor change Applicant made to claim 29 in the previously filed Amendment could not have necessitated the Examiner's application of a new ground of rejection with regard to claim 29.

Further, the Aso et al. and Alexander et al. references were not cited by Applicant in an Information Disclosure Statement filed during the period set forth in 37 CFR 1.97(c).

Accordingly, Applicant submits that the finality of the Office Action, dated February 25, 2005, is improper. Withdrawal of the finality of the Office Action, dated February 25, 2005, is, therefore, respectfully requested.

In paragraph 3 of the final Office Action, the Examiner rejected pending claims 1, 2, 4, 10, 13, and 17 under 35 U.S.C. § 102(e) as allegedly anticipated by Aso et al. Applicant respectfully traverses the rejection with regard to the claims as amended herein.

A proper rejection under 35 U.S.C. § 102 requires that a single reference teach every aspect of the claimed invention either expressly or impliedly. Any feature not directly taught must be inherently present. In other words, the identical invention must be shown in as complete

detail as contained in the claim. See M.P.E.P. § 2131. Aso et al. does not disclose or suggest the combination of features recited in claims 1, 2, 4, 10, 13, and 17.

Amended independent claim 1, for example, is directed to a wavelength division multiplexer for multiplexing optical input signals. The multiplexer comprises a plurality of groups of wavelength converters and a coupler. The wavelength converters of a first one of the groups receive optical input signals with a common wavelength and different optical pump signals and output wavelength-shifted output signals. The wavelength converters of an m th one of the groups receive the wavelength-shifted output signals from an $m-1$ th one of the groups and output wavelength-shifted output signals with wavelengths that are differently shifted relative to the common wavelength of the optical input signals, where m is an integer greater than 1. The coupler combines the wavelength-shifted output signals from the wavelength converters of the m th one of the groups into a multiplexed signal.

Aso et al. does not disclose or suggest the combination of features recited in amended claim 1. For example, Aso et al. does not disclose or suggest a plurality of groups of wavelength converters, where the wavelength converters of a first one of the groups receive optical input signals with a common wavelength and different optical pump signals and output wavelength-shifted output signals, and the wavelength converters of an m th one of the groups receive the wavelength-shifted output signals from an $m-1$ th one of the groups and output wavelength-shifted output signals with wavelengths that are differently shifted relative to the common wavelength of the optical input signals, where m is an integer greater than 1. Instead, Aso et al. discloses wavelength conversion portions 10 and 20 that receive original WDM lightwaves and output wavelength converted wavelengths $\lambda_{\nu'}$ and $\lambda_{\nu''}$, respectively (paragraph 0093; Figs. 20 and

24). Assuming that the wavelength conversion portions of Aso et al. can be equated to the wavelength converters of claim 1 (a point that Applicant does not concede), Aso et al. does not disclose that there are a plurality of groups of wavelength conversion portions with the particular features required by claim 1.

For at least these reasons, Applicant submits that claim 1 is not anticipated by Aso et al. Claims 2, 4, and 10 depend from claim 1 and are, therefore, not anticipated by Aso et al. for at least the reasons given with regard to claim 1.

Amended independent claim 13 recites features similar to features recited in claim 1. Claim 13 is, therefore, not anticipated by Aso et al. for at least reasons similar to reasons given with regard to claim 1. Claim 17 depends from claim 13 and is, therefore, not anticipated by Aso et al. for at least the reasons given with regard to claim 13.

For at least the foregoing reasons, Applicant respectfully requests the reconsideration and withdrawal of the rejection of claims 1, 2, 4, 10, 13, and 17 under 35 U.S.C. § 102 based on Aso et al.

In paragraph 5 of the final Office Action, the Examiner rejected claims 7, 8, 14, and 25 under 35 U.S.C. § 103(a) as allegedly unpatentable over Aso et al. in view of Bartholomew. Applicant respectfully traverses the rejection.

Claims 7 and 8 depend from claim 1 and claim 14 depends from claim 13. Without acquiescing in the Examiner's rejection, Applicant submits that the disclosure of Bartholomew does not cure the deficiencies in the disclosure of Aso et al. identified above with regard to claims 1 and 13. Therefore, claims 7, 8, and 14 are patentable over Aso et al. and Bartholomew,

whether taken alone or in any reasonable combination, for at least the reasons given with regard to claims 1 and 13.

Claim 25 has been amended to be dependent from claim 22. The Examiner allowed claim 22. Therefore, claim 25 should also be in condition for allowance.

For at least the foregoing reasons, Applicant respectfully requests the reconsideration and withdrawal of the rejection of claims 7, 8, 14, and 25 under 35 U.S.C. § 103 based on Aso et al. and Bartholomew.

In paragraph 6 of the final Office Action, the Examiner rejected claims 9 and 15 under 35 U.S.C. 103(a) as allegedly unpatentable over Aso et al. in view of Suzuki. Applicant respectfully traverses the rejection.

Claims 9 and 15 depend from claims 1 and 13, respectively. Without acquiescing in the Examiner's rejection, Applicant submits that the disclosure of Suzuki does not cure the deficiencies in the disclosure of Aso et al. identified above with regard to claims 1 and 13. Therefore, claims 9 and 15 are patentable over Aso et al. and Suzuki, whether taken alone or in any reasonable combination, for at least the reasons given with regard to claims 1 and 13.

For at least the foregoing reasons, Applicant respectfully requests the reconsideration and withdrawal of the rejection of claims 9 and 15 under 35 U.S.C. § 103 based on Aso et al. and Suzuki.

In paragraph 7 of the final Office Action (pages 4-5), the Examiner rejected claim 29 under 35 U.S.C. 103(a) as allegedly unpatentable over Aso et al. in view of Alexander et al. Applicant respectfully traverses the rejection.

Amended independent claim 29 has been amended to include the features of claim 22. Claim 22 was allowed by the Examiner. Therefore, claim 29 should also be in condition for allowance.

For at least the foregoing reasons, Applicant respectfully requests the reconsideration and withdrawal of the rejection of claim 29 under 35 U.S.C. § 103 based on Aso et al. and Alexander et al.

In paragraph 7 of the final Office Action (pages 5-6), the Examiner rejected pending claim 30 under 35 U.S.C. 103(a) as allegedly unpatentable over Aso et al. Applicant respectfully traverses the rejection.

Amended independent claim 30 is directed to a network that comprises one or more network devices, a wavelength division multiplexing system, and one or more other network devices. The one or more network devices is/are configured to produce n optical input signals with a common wavelength, where n is an integer. The wavelength division multiplexing system is configured to receive the n optical input signals with the common wavelength and remotely deliver n optical output signals with different wavelengths. The system includes a plurality of groups of wavelength converters, where at least some of the wavelength converters are configured to receive a plurality of the n optical input signals with the common wavelength and an optical pump signal and optically generate a plurality of intermediate output signals, at least some other ones of the wavelength converters are configured to receive the intermediate output signals and optically generate the n optical output signals, where each of the n optical output signals has a wavelength that is shifted relative to the common wavelength by a different amount

from wavelengths of other ones of the output signals. The one or more other network devices is/are configured to receive the n optical output signals with different wavelengths.

Aso et al. does not disclose or suggest the combination of features recited in claim 30. For example, Aso et al. does not disclose or suggest a plurality of groups of wavelength converters, where at least some of the wavelength converters are configured to receive a plurality of the n optical input signals with the common wavelength and an optical pump signal and optically generate a plurality of intermediate output signals, at least some other ones of the wavelength converters are configured to receive the intermediate output signals and optically generate the n optical output signals, where each of the n optical output signals has a wavelength that is shifted relative to the common wavelength by a different amount from wavelengths of other ones of the output signals. Instead, Aso et al. discloses wavelength conversion portions 10 and 20 that receive original WDM lightwaves and output wavelength converted wavelengths $\lambda_{Y'}$ and $\lambda_{Y''}$, respectively (paragraph 0093; Figs. 20 and 24). Assuming that the wavelength conversion portions of Aso et al. can be equated to the wavelength converters of claim 30 (a point that Applicant does not concede), Aso et al. does not disclose that there are a plurality of groups of wavelength conversion portions with the particular features required by claim 30.

For at least these reasons, Applicant submits that claim 30 is not anticipated by Aso et al.

For at least the foregoing reasons, Applicant respectfully requests the reconsideration and withdrawal of the rejection of claim 30 under 35 U.S.C. § 103 based on Aso et al.

In view of the foregoing amendments and remarks, Applicant respectfully requests the Examiner's reconsideration of the application and the timely allowance of pending claims 1, 2, 4-11, 13-15, 17-20, 22, 23, 25, 26, and 28-30.

Applicant respectfully requests that the finality of the Office Action be withdrawn as improper for the reasons provided above. Accordingly, this Amendment should be entered by the Examiner, placing claims 1, 2, 4-11, 13-15, 17-20, 22, 23, 25, 26, and 28-30 in condition for allowance.

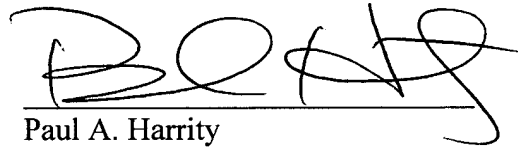
In the event that the Examiner does not withdraw the finality of the Office Action, Applicant respectfully requests that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing claims 1, 2, 4-11, 13-15, 17-20, 22, 23, 25, 26, and 28-30 in condition for allowance. Applicant submits that the proposed amendments do not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner, since all of the elements and their relationships claimed were either earlier claimed or implied in the claims as examined. Therefore, this Amendment should allow for immediate action by the Examiner.

If the Examiner does not believe that all pending claims are now in condition for allowance, the Examiner is urged to contact the undersigned to expedite prosecution of this application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

HARRITY & SNYDER, L.L.P.

A handwritten signature in black ink, appearing to read 'Paul A. Harrity', written over a horizontal line.

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